

# DSVD

## Digital Simultaneous Voice and Data

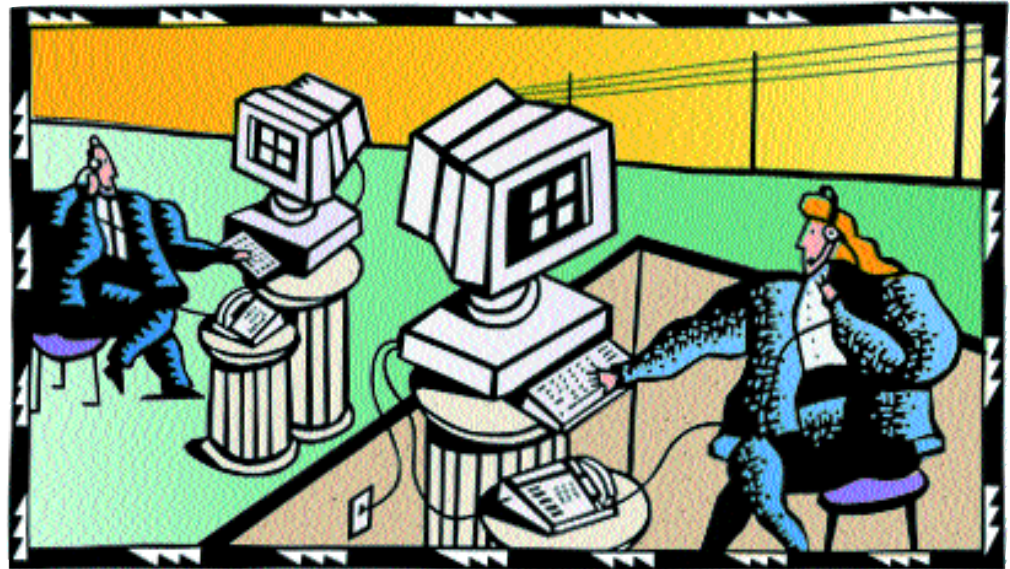
*DSVD is an open industry standard for sharing voice and data simultaneously over a single analog telephone line. DSVD modem users may connect to each other via a call initiated by any modem-based communication application during which the user may add voice simply by picking up the telephone headset. DSVD will pioneer a range of interactive applications and technical support capabilities.*

### TECHNOLOGY PROVIDERS:

- Independent Hardware Vendors
- Independent Software Vendors
- Operating System Vendors

### USER BENEFITS:

- Voice and data communications combined over a single telephone line
- Enables the PC for simultaneous voice and data
- Works with existing applications



The explosive growth in personal computer processing power has created many new capabilities. With the increased need to share information, PC users engaging in collaborative or interactive computing have become frustrated. Typically, a user will need one telephone line for voice and one separate line dedicated to facsimile/data communications. However, with DSVD technology, this problem is solved by enabling voice and data information to be transmitted simultaneously over a single analog telephone line. Users no longer need to terminate a voice call to use a modem. Rather, the user can connect to other DSVD modem users via a modem call through the enabled application, and simply by picking up the telephone headset, voice is added! Conversely, users can place a normal voice call first and then connect with a modem application to send data/fax.

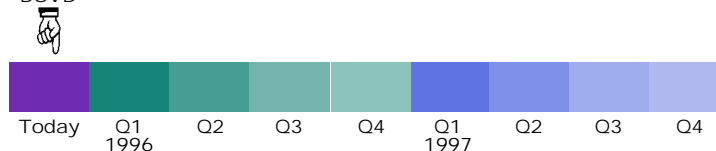
The DSVD specification allows users to exchange digital data, images or video along with voice communication over an analog line. Furthermore, DSVD is a scalable architecture that allows for software enhancements without modifications.

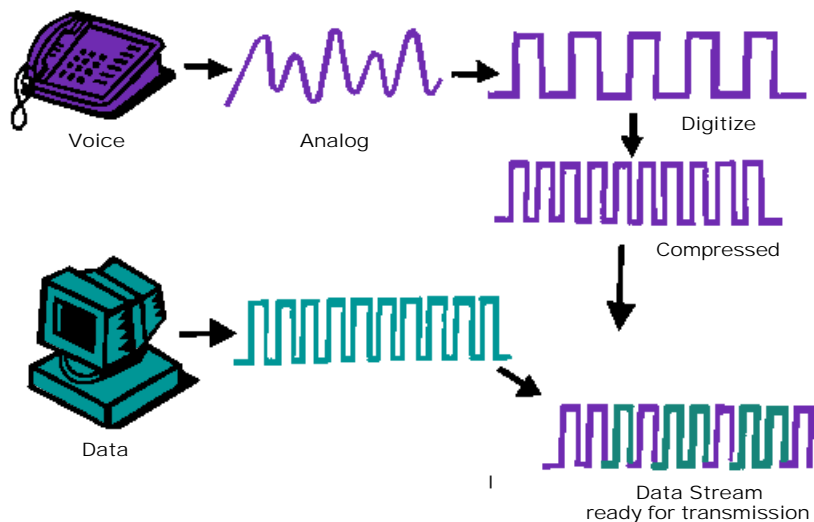
### Modem Evolution

DSVD is an open, platform-independent specification developed by modern industry leaders to ensure compatible modem products and to provide a basis for proliferation of interactive PC applications. Some of the industry leaders in defining DSVD specifications are Creative Labs, Hayes Microcomputer Products, Intel Corporation, Rockwell International and U.S. Robotics. The DSVD specification is implemented as an additional protocol, V.42 that encompasses the V.34-class protocol for 28.8 kbps modems.

### AVAILABILITY TIMELINE

DSVD





### How the DSVD Modem Works

DSVD modems convert an analog voice signal to a digital format and compresses it to one-eighth of its original size. The stream is then multiplexed with data from a communication application running on the user's PC and transmitted over a single telephone line. The process is reversed at the other end with a compatible DSVD modem product.

DSVD modems can operate in one of three modes: analog voice, DSVD data or DSVD state. Transitioning between these states is easily accomplished by the end user.

In the analog state, the DSVD-compatible modem passes through the analog voice call to the receiver's end, as in a standard telephone connection. No data transmission takes place, and the call can be terminated in a normal fashion by hanging up either telephone.

While in DSVD data state, DSVD modems provide standard "V" series data functions and can send or receive data/fax with a non-DSVD modem.

In the DSVD state, the external functions of the DSVD protocol are enabled during the initial handshake, and two logical data channels are established over a single physical phone line, one for audio and the other for data. Upon transmission, analog voice signals at both ends of the connection are sampled, digitized and compressed for full duplex communication using the built-in audio algorithm. The two signals (digital audio and data) are multiplexed into short segments or frames and transmitted over the standard V.42 modem protocol. This enables transmission of multiple logical channels between modems using a single physical connection.

A number of DSVD products are now shipping.

For information on DSVD technology, please access Intel's home page on the World Wide Web at:  
<http://www.intel.com>

For more specific information on DSVD, please refer to the following web sites:

<http://www.intel.com/ial/dsvd/>

or at Intel's Personal Communications Work Group:

<http://www.gopcwg.org/pcwg>

To receive the DSVD specification, call:  
 (503)226-8247

### TECHNOLOGY IMPLEMENTERS<sup>†</sup>:

- Independent Software Developers  
Creative Labs, Microsoft
- Independent Hardware Developers  
Hayes Microcomputer Products, Rockwell International, U.S. Robotics
- Original Equipment Manufacturers  
Compaq, Intel Corporation

<sup>†</sup>Partial list

intel.